Wu 113122cont

IN THE CLAIMS:

13. (Currently Amended) A method for controlling access to a resource that may be shared by a plurality of users, which resource has an associated lock and the lock having an associated state, comprising the steps of:

when a user U_a of said users wishes to initiate access

said user sends ~~sending~~ to said lock command X that includes a tuple ~~(0,Ba),~~ (M,S), where M=0 and S=B_a, where B_a uniquely identifies user U_a;

when said lock receives said command X ~~and said state of said lock is 0~~, said lock returns to said user its state value B_i that is either 0 or a non-zero value that uniquely identifies a user U_i that previously set said lock ~~which is a match-and-set lock that changes its state to a second term of an applied tuple only when a first term of the applied tuple matches its state~~, and when B_i=0, said lock sets its state to B_a, thereby granting ~~and grants~~ to said user access to said resource[[;]]

~~when said users wishes to terminate access,~~

~~said user sending to said lock command Y that includes a tuple (Ba,0); and~~

~~when said lock receives said command Y, and said state of said lock is Ba, said lock sets its state to 0, and releases said resource for access by any of said users.~~

14. (Previously Presented) The method of claim **13** where B_a includes an identifier, P_a, that uniquely identifies said user, and a time stamp, T_a, that is a time pertaining to said user.

15. (Previously Presented) The method of claim **14** where is B_a is such that both P_a and T_a can be derived from B_a.

16. (Canceled) .

17. (Currently Amended) The method of claim ~~16~~ 15 wherein, when in response to command X said lock returns to said user ~~wishes to initiate access, obtains said state of said lock, and~~ said state of said lock B_i and $B_i \neq 0$ ~~is other than 0 or Ba~~, said user proceeds with the following steps:

Wu 113122cont

derives value P_i and T from B_i ~~said state~~;

obtains value T_i that pertains to ~~said~~ a user identified by P_i;

if T is not equal T_i, sends command Z to said lock, which command includes tuple (M,S), where $M=B_j$.

18. (Previously Presented) The method of claim ~~17~~ 15 where $B_a=P_a+T_a*N$, where N is an integer and P_a is a number less then N.

19. (Previously Presented) The method of claim ~~18~~ 17 where deriving P_i from B_i comprises expressing B_i in modulo N, and deriving T from B_i comprises dividing B_i to obtain a remainder that includes an integer value, and setting T to the integer value.

20. (Currently Amended) The method of claim 18 ~~14 where $B=P+T(N)$,~~ where ~~P is a number less then~~ N is the number of said users.

21. (Previously Presented) The method of claim 13 where said user is a process.

22. (Previously Presented) The method of claim 13 where said users are processes of a multiprocessor computer system.

23. (Canceled) .

24. (Currently Amended) The method of claim 13 where said users are processes of a single-processor multi-processing system ~~computer~~.

25. (New) The method of claim 15 wherein, when in response to command X said lock returns to said user-said state of said lock B_i and $B_i \neq 0$, said user proceeds with the following steps:

derives value P_i and T from B_i;

obtains value a parameter that pertains to said user identified by P_i, where the parameter is either an operational status of P_i or time T*i* associated with Pi;

if the parameter is the operational status and the operational status indicates that Pi is not operational, or if the parameter is T_i and T_i is not equal to T, sends command Z to said lock, which command includes tuple (M,S), where $M=B_i$.

26. (New) The method of claim 25 where $S=B_a$ in tuple (M,S) of command Z.

27. (New) The method of claim 26 where in response to command Z the lock returns R, and if $R=B_i$ then said user proceeds with accessing the resource.